MANUFACTURING
EXTENSION
PARTNERSHIP (MEP)

Conversion 2000: Y2K Self-Help Tool

User's Guide

For Excel 95 and Excel 97

Version 2.1

February 10, 1999

Introduction

Background

The Manufacturing Extension Partnership (MEP) developed the Y2K Self-Help Tool to assist smaller businesses in developing and conducting an internal Y2K remediation project. The tool considers the most common needs of smaller companies in providing the specific macros, help and functionality to address the Y2K problem.

Philosophy

The tool's philosophy is based on the belief that since the Y2K problem poses a significant threat to small business, it should be addressed as a *management* problem, rather than an information technology (IT) problem. Although there are many IT components of the problem, the Y2K problem affects every aspect of any business. Therefore, any Y2K remediation project should follow accepted project management practices to address comprehensively the Year 2000 problem as an operational threat to an organization.

Suggestions for Use

The User's Guide will walk you through the Y2K Self-Help Tool, following the same format of the tool as it appears on your computer. You may want to run the tool and this guide simultaneously, so that you can jump from one to the other. This manual will provide additional direction and information as needed.

It is important that any company considering the implementation of a Y2K remediation project provide executive-level commitment to ensure success. Executive-level commitment should include the provision of needed funding for the acquisition of tools, the securing of consulting services and the repair, upgrade and/or replacement of systems. This commitment is an important prerequisite for successfully beginning this project.

Note

Use of specific software products for the creation of the Y2K Self-Help Tool does not constitute an endorsement by the Federal Government. Microsoft, Access 97, and Excel 95/97 are either trademarks or registered trademarks of Microsoft Corporation.

Table of Contents

Getting Started

Whether you have downloaded the MEP Y2K Self-Help Tool from an MEP website or received these files in some other manner, the tool should be fully functional on delivery.

The file "Y2Ktool.xls" is a Microsoft Excel document that can be executed in Microsoft Excel 95 (Version 5.0/7.0) or Microsoft Excel 97. The file "UserGuide.doc" is a Microsoft Word document that can be opened in Microsoft Word 95 (Version 6.0/7.0) or MS Word 97. The performance of the tool is slower when operated in Excel 97 than in Excel 95.

If you do not have both of these programs, we recommend that you acquire them, as we cannot guarantee any of the files will perform as designed if run under any other application.

Beginning to Use the Tool

Starting the tool in Excel 97

In Excel 97, you may receive an Excel warning upon opening the tool. (You can disable this warning message.)

> The workbook you are opening contains macros. Some macros contain viruses that could be harmful to your computer. If you are sure this workbook is from a trusted source, click 'Enable Macros'. If you are not sure and want to prevent any macros from running, click 'Disable Macros.'

This warning cautions users against accidentally loading viruses. The Y2K tool includes custom macros that provide additional functionality. These features are crucial to planning and executing a successful Y2K remediation project. Be assured that the custom macros in the Y2K tool are safe. You can disable this warning in the future by deselecting the *'Always ask before opening workbooks with macros'* option.

Select the *'Enable Macros'* button to continue loading the tool.

Starting the tool in all platforms

As the application loads, the status screen reads:

> Conversion 2000: Opening Year 2000 Assessment Model

The disclaimer follows:

> 'Due to the variability of each company's Year 2000 readiness efforts, MEP cannot make any warranties of any kind regarding the information, its accuracy, or any results the company may or may not obtain by using the tool. The information is provided on an as-is basis and MEP does not warrant or

guarantee the adequacy, quality, completeness or suitability of any information in the tool for any purpose".

This statement reminds the user that the responsibility for properly implementing the tool rests entirely upon the user. Use of the tool means that you implicitly understand that NIST/MEP is not liable for any problems resulting from the use of this tool in the company's Y2K remediation project.

It is also critical that the user recognizes that this tool does not provide technical analysis or remediation of computer hardware, software or embedded systems. The NIST/MEP program has provided additional resources on the Y2K remediation efforts, which are accessible through the MEP Y2K Self-Help Tool Resource site at http://y2khelp.nist.gov.

The Conversion 2000 (Y2K) Tool Workspace

Exclusive features of the tool

Year 2000 Pull-Down Menu

The 'Year 2000' pull-down menu is an exclusive feature of the Conversion 2000 (Y2K) tool. It is located on the standard Excel title bar, between the 'Window' and the 'Help' menus.

This menu gives the user access to various functions, including

- accessing the other worksheets (via the "Manager" road map),
- calculating risk and criticality,
- printing,
- generating Y2K Help screens, and
- deleting rows.

The Year 2000 pull-down menu automatically appears upon opening the workbook, and closing the file properly dismisses the menu.

In case of errors

The user can manually dismiss the menu by selecting "Delete Year 2000 Menu" from the Year 2000 pull-down menu (You may need to re-open the model again, and then select "Delete"). This functionality is helpful if you encounter errors with the Year 2000 pull-down menu, such as if the menu appears when the tool is closed, or the menu replicates itself.

Navigating Using the Y2K *Manager* Worksheet

The "Manager" worksheet acts as a roadmap for accessing the other worksheets in the tool. The buttons on the "Manager" worksheet provide direct access to the worksheet specified. The Manager also displays some instructions on using the sheets provided in each of the sections.

From the Manager sheet, click on a rectangular button to access the desired phase or worksheet (notice that the cursor changes into a hand when it moves across a rectangular button).

There are two ways to access the Manager worksheet:

- Select "Manager" from the Year 2000 pull-down menu.
- Click on the sheet tab "Manager" at the bottom of the workspace.

Sorting from the Y2K pull-down menu

Select "Sort" from the Year 2000 pull-down menu to sort the relevant worksheets in the tool by certain keys.

Importing From Previous Versions of the Tool (available Version 2.1)

This functionality enables users to upgrade their data with subsequent revisions of Conversion 2000. Import is a one-time only process, as most of the tool information is deleted on execution of the import.

Y2K Team information is not imported.

To move data from one Excel tool to another Excel tool:

1. Open the destination Y2K Excel tool, Version 2.1 or later. Ensure that the source Y2K Excel tool is closed.

2. Select "Import" from the Year 2000 pull-down menu. Users are prompted for the name of the source Y2K Excel tool, which must reside in the current directory as the destination file.

3. All previous data in the destination Excel tool will be deleted prior to import.

Traditional Features available to Microsoft Excel

Navigating through the workspace using sheet tabs

A sheet tab is the tab near the bottom of a workbook window that displays the name of a sheet. To make a sheet active, click its tab. To display a shortcut menu, click a tab with the right mouse button. To scroll through the sheet tabs, use the tab scrolling buttons to the left of the tabs.

The tab scrolling buttons are the arrow buttons to the left of the sheet tabs. To scroll between sheet tabs, click an arrow for the direction you want to scroll; to select a sheet, click its tab. To scroll several tabs at a time, press SHIFT while you click one of the middle tab scrolling buttons. To display a menu of sheets in the workbook, click a tab-scrolling button with the right mouse button.

Effect of protection schemes

Some Excel features, including formatting cells and rows, are not available due to the protection schemes.

Each sheet of the workbook is protected from changes, including formatting changes. Do not change the names of the worksheets. Renaming any of the worksheets will compromise the performance of the tool.

Changing the Printing Defaults

Select "Page Setup" from the File pull-down menu to change the printing defaults, including the magnification ("Scaling"), header and footer information, and paper size.

Typing a Text String in a Cell

When typing a text string in a cell, you must first inform Excel that the cell contents form a string. Begin typing your string with a single quote mark (') to denote a text entry in a cell. For example, if entering a serial number beginning with a number, *10/3AB*, type *'10/3AB* in the cell to convince Excel that this is a string.

Organization of the sheet tabs

The different phases and steps of the tool are located on sheet tabs. The Y2K tool includes the following sheets:

- *MEP* – displays the disclaimer for the tool.
- *Manager* – contains the navigating for the tool.
- *Y2K Team* – identifies the members of the Y2K team as specified by the user.
- Phase 1 – Inventory (3 worksheets)
- Phase 2 – Identify important functions and relationships (5 worksheets)
- Phase 3 – Contingency Plans (3 worksheets)
- Phase 4 – Remediation (1 worksheet)

Identifying the Y2K Team Personnel

Use the "Y2K Team" sheet to identify the Y2K project management team conducting your company's Y2K remediation project.

Members of the Y2K Team

- **Y2K Champion** – The Y2K Champion acts as the ultimate authority overseeing the successful implementation of the Y2K remediation project. An officer of the corporation designates the Y2K Champion. The Champion may even be a member of the board, the CEO or CIO, or some other executive-level corporate officer. The Champion selects the members of the project management team.
- **The Project Manager** – the "hands-on" project leader who oversees the activities, assigns tasks, monitors progress and reports to the Y2K Champion. The position need not be an "Information Technology" (IT) specialist, but an understanding of the role of IT within the organization is important. The position requires a person with project management experience, especially in mission critical areas. This person will have the responsibility of coordinating activities and implementing changes, which will have both short-term and long-term impact on the viability of the organization.
- **The Project Team** – consisting of management-level designees with specific responsibilities defined by the Project Manager. These responsibilities usually include tasks relative to their specific area of expertise or experience such as finance, production, human resources, etc.

- The Team Manager may wish to designate an **IT specialist** as a team member. If you have an IT specialist on staff you should use them either as a team member or a resource. If an IT specialist is not available internally, you may want to consider contracting with an IT consultant on "as-needed basis".

  During the project, contingency plans will be developed requiring specific individuals to create contingency plans for their area of expertise. Therefore, when assigning team members, the Team Manager should consider using those individuals with authority over specific departments or with specific managerial responsibility for one or more essential operational functions.

  The Y2K Team and the provided sheet should be complete before moving into the succeeding sections of the tool and beginning the first phase of the project. All employees should be aware of the project and the identity of team members. Employees should be regularly updated as to the status of the project.

Determining the Tool Version

The tool version for the Excel tool is only available for Versions 2.0 and subsequent versions.

- For Version 1.0, the tool version is not available.

- For Version 2.0 and subsequent versions, the tool version is located in the Y2K Team sheet.

Phase 1 – Inventory

Overview: Hardware, Software and Embedded Systems Inventory

Conducting a thorough inventory of mission critical devices and systems within your organization is the first step toward determining your organization's level of exposure to possible Y2K problems. In phase 1, you will prepare an inventory record of three categories of items – hardware, software and embedded systems.

- **Hardware** is defined for this sheet as "equipment that runs software". These devices would include personal computers, servers, notebooks, main frames, mini's, workstations, PDA's, etc.

- **Software** includes any applications, tools, databases, or other "programs" which have been developed or purchased to run on a computer.

- **Embedded Systems** include equipment and systems containing integrated circuits. Examples are telephones, faxes, thermostats, utility meters, elevators, security systems, CNC equipment, programmed logic controllers (PLCs), waste treatment systems, etc. Embedded Systems can also refer to either single or multi-purpose computerized devices that are literally embedded within some larger piece of engineering equipment or industrial product. Although many of the more common embedded systems items may not be mission critical, you should consider their role within the organization when deciding whether or not to inventory them.

Using Alternative Inventory Tools to the Conversion 2000 Tool

While many companies will be able to conduct inventory by physically inspecting their systems, there are inventory tools available for a number of computer platforms and operating systems that can assist you in conducting hardware and software inventory. As these tools are usually purchased, the decision to use these tools should be based on your organization's available budget, and the need for the tool to conduct the inventory. Many of these tools are listed on the MEP Y2K Self-Help Tool Resource page of the MEP website at http://y2khelp.nist.gov.

Using the Inventory Sheets of the Conversion 2000 tool (Steps 1-1 thru 1-3)

The Inventory Sheets are organized to allow you to record all hardware, software and embedded systems data. There are few variations between the inventory types. Each of the column headings designate data that needs to be recorded for further use in the remediation process.

Noteworthy Tips

- **Sample data**. You will notice that the first row of each inventory page is highlighted in gray with data already in each cell. This is to provide an example of how the data should be entered in each row. The information here will not be included in your inventory and will not contribute to criticality computations.

- **Required fields**. The red font in the column headings denotes required fields. All records must have information in the required fields in order for the tool to calculate criticality and risk ratings. If information is not available for a required field, fill the field with "N/A" to avoid an error message.

Field descriptions in Hardware Inventory (Step 1-1)

As the inventory is conducted, the data fields listed below should be filled out completely. Follow along with the tool as description of each of the columns in the Hardware Inventory sheet are described below:

1) **Item Number**. The tool automatically generates the numbering sequence after completing the inventory. See the "Numbering the inventory" section for directions. The hardware items series is 1000 to 3999. The software series is 4000 to 6999. The embedded systems series is 7000 to 9999.

2) **Site Location**. Refers to the physical placement of the device, such as room 102.

3) **Item Description**. The description should define its function or a commonly understood name such as "personal computer" or "notebook". The field item may include a verbal description of the inventoried item, an item number assigned to the asset by the company, or other useful description.

4) **Model.** Refers to the manufacturer's product model name such as an IBM "Aptiva". If the product is a custom made device or a clone you can record it as "desktop clone" or some other name that unique to that device.

5) **Manufacturer**. Refers to the company that completed the construction of the item (such as IBM). If the item was custom built by a vendor, then you should designate the name of the vendor as the manufacturer. If you built the system in-house designate the vendor from whom you purchased the components.

6) **Vendor**. Identifies the reseller from whom you purchased the item, such as CompUSA. Again, if the item is a clone or non-standard item assembled in-house, list the company from whom you purchased the components.

7) **Serial Number**. Most major manufacturers of computer hardware provide a serial number, listed somewhere on the unit. If the unit does not have a serial number, generate your own using a code sequence that will help you identify the device, its configuration and/or it's function and record it on this sheet.

Typing a Text String in a Cell

When typing a text string in a cell, you must first inform Excel that the cell contents form a string. Begin typing your string with a single quote mark (') to denote a text entry in a cell. For example, if entering a serial number beginning with a number, *10/3AB*, type *'10/3AB* in the cell to convince Excel that this is a string.

8) **Purchase Date**. Refers to the date of product delivery, or the date stated on the original invoice from the vendor. If an exact date is unknown, estimate the time of delivery, as this will assist in determining the beginning of the manufacturer's warranty period.

9) **Warranties**. Refers to the manufacturer's warranty listed either on the original invoice or in the documentation that came with the unit. If one is unknown, contact the manufacturer or vendor to confirm the warranty.

10) **Service Contracts**. Refers to any service contracts or extended warranties purchased at the time of purchase or since.

11) **Upgrades**. Because many systems are periodically upgraded, it is important that each upgrade of RAM, processors, hard drives, or other components are recorded here. This will help in determining the compatibility of all components if an additional upgrade is required to achieve Y2K compliance.

12) **Item Owner/User**. Refers to the person with the item in their possession (i.e., located in their office, use it on a regular basis, or have asset responsibility).

13) **Inventoried by**. Refers to the person assigned by the Y2K Team Manager or a Y2K Team Member to conduct the physical inventory of this item.

14) **Inventory Date**. Refers to the last date that the inventory of this specific item was completed. If updating the inventory, then the latest revision date should be also be updated in this field.

15) **Notes**. Here you may add any information relative to a specific item that will assist in determining Y2K compliance, or its function within the organization.

Conducting Inventory

The Y2K Team Manager should have assigned someone or a team to conduct inventory within designated areas of the organization. Alternatively, an inventory team may conduct an inventory of your facilities as a whole. In any case, it is imperative that the inventory is thorough and accurate. The team member overseeing the inventory should insure that data is registered properly and item entries are not duplicated.

The inventory sheet (Step 1-1) provides information that is merged with data in Phase 2 – Business Criticality Assessment, where the business criticality of each item is assigned. Therefore, the data recorded in Step 1-1 must be precise.

Field descriptions in Software Inventory (Step 1-2)

Conduct an inventory of the software items in the same manner as the hardware inventory with the following exceptions.

- **Version**. Refers to the version number issued by the publisher/manufacturer for that software application. To display the software version in Windows 95, select "About" from the "Help" pull-down located on the title bar. Alternatively, some applications display the version number while the program is loading.

- **Upgrade/Patches**. Refers to any upgrades purchased or downloaded and implemented. To display the software version for items in Windows 95, select "About" from the "Help" pull-down located on the title bar.

Field descriptions in Embedded Systems Inventory (Step 1-3)

Conduct an inventory of the software items in the same manner as the hardware and software inventory with the following exceptions.

- **Estimated Number of IC Chips**. Some devices have several integrated circuits or microprocessors, the total number of IC's or chips should be recorded here so that each can be verified separately for Y2K compliance.

Numbering the inventory

Before moving to Step 2-1: Core Business Functions Identification, execute the numbering scheme. There are two ways to execute the automatic numbering scheme for the inventory items.

- Push the "Auto Number Inventory" button on each of the inventory worksheets after entering data.
- Select "Re-number inventory" from the Year 2000 Pull-Down Menu after entering data.

Additionally, the execution of the criticality routines implements the automatic numbering scheme for the inventory items.

Formatting the inventory sheets with borders

The tool automatically refreshes the borders and the formats after entering the inventory items. You are not limited to the bordered cells when entering data. Continue to add inventory data beyond the bordered cells and execute the automatic inventory numbering scheme to refresh the cell borders and formats (do not skip lines between inventory items).

Record limits

The record limit for the inventory data is around 3000 for each of the inventory types (hardware, software, and embedded systems).

Phase 2 – Business Criticality Assessment

Phase 2 enables users to perform a business criticality assessment of the hardware, software and embedded systems of the company. During this phase, users identify business functions, external threats, and business partnerships. The tool helps the user determine a baseline criticality assessment of each of the inventory items.

Step 2-1: Core Business Functions Identification

In Phase 2, users identify core business functions and rate each function's importance to the business survival. Refer to the corresponding section of your Y2K Self-Help Tool as you read the following process procedures.

Process Steps

1) **Identify the core business functions** in the company, beginning with the list provided in the column titled "Business Functions".

   Identify functions, rather than departments. In many smaller companies, one department or person performs many core functions. You will need to identify these critical functions rather than the department or person that performs them.

   Remove the irrelevant business functions that not pertinent to your organization. Select "Clear/ This Row" from the Year 2000 Pull-Down Menu to delete an unnecessary business function.

   You may add relevant business functions to the list; however, do not skip lines when entering data.

   This information is reflected in subsequent sections of the tool.

2) **Assign the business criticality rating** for each of the business functions by using one of two methods:

   Method 1: Assign a numeric rating of 1 – 5 (5 being the most critical) to each function, based on your perception of criticality. Rating definitions are:

   Rating 5. Major impact to the company and would lead to serious cashflow problems over a short timeframe.

   Rating 4. Moderate-to-major impact to your company and leads to serious cashflow problems over a longer period of time.

   Rating 3. Moderate impact to your company, ultimately reduces cashflow, but does not lead to serious cashflow problems.

   Rating 2. Minor impact to your company and will not affect cashflow significantly.

Rating 1. Negligible impact to your company

Method 2: Develop an estimate of the cost of damages associated with the failure of each business function for a 1-week period. (This method requires an estimate for each business function). For each identified function, record the estimate in the "Method 2: Damages Cost Estimate" column.

Method 2 is the preferred method for determining a baseline criticality assessment. However, it is realized that some companies may not have the accounting records or resources to estimate the dollar impacts of lost functions.

Executing Fill Inventory to Business Functions Map

After finishing the requirements for Step 2-1, you must run a routine to fill the map of inventory items to business function. This process enables you to continue to the next step, where the criticality of each inventory item is evaluated, Step 2-2: Map Inventory to Business Functions.

There are two ways to execute this routine.

- Press the "Fill Inventory to Business Functions" button in the upper right portion of the sheet.
- Select "Inventory Function-Map" from the Year 2000 Pull-Down Menu.

Step 2-2: Map Inventory to Business Functions

The information in Phase 1 – Inventory has been brought into Step 2-2 so that you may "map" inventory to the business functions you have defined in Step 2-1: Core Business Functions Identification. Mapping inventory to business functions will help determine which inventoried items are most critical to the operation of your organization.

Process Steps

1) First, for each inventoried piece of hardware, software and embedded system identified in Phase 1 – Inventory, **identify the associated business function(s)** by placing an "X" in the left column under the business function assigned to that item. There may be individual items that are used for more than one business function, therefore place and "X" in any and all applicable business function cells.

2) Next, for each business function (beginning with accounts payable and moving to the right), **rate the criticality** of each item identified with an "X" using the following definitions:

Failure of the item results in ...

Rating 5. Immediate stoppage of the business function, presents significant risk of loss of life or personal injury, allows a major security breach, and/or a major loss or damage of hardware/software/equipment.

Rating 4. A major reduction of business function, presents only minor risk of personal injury, and/or minor loss or damage to hardware/software/equipment.

Rating 3. A moderate reduction of business function.

Rating 2. A minor-to-moderate reduction of business function.

Rating 1. A minor reduction of business function.

Note: All inventory items determined to be safety-related must be given the highest criticality and correction priority, regardless of the baseline criticality values calculated in Step 2-5: Inventory Business Criticality and Risk Status.

Calculating Baseline Criticality

After assigning criticality values for each inventoried item by business function, you must execute the routine for calculating the baseline criticality. This process calculates baseline criticality values for each inventoried item recorded.

There are two ways to calculate the baseline criticality.

- Click on the button labeled "Calculate Baseline Criticality" on Sheet 2-2.
- Select "Calculate/Criticality" from the Year 2000 Pull-Down Menu.

Once you have completed all of the items and executed the process for calculating the baseline criticality, you may continue to Step 2-3: Critical Business Partnerships Inventory.

Step 2-3: Critical Business Partnerships Inventory

Step 2-3 identifies essential business partners upon whom you rely for the delivery of products or services. Just as you would determine the Y2K risk of your internal systems, you must also determine your partner's Y2K compliance status and the your risk in continuing to rely on them. To do so you will submit a formal request to each of your partners requiring a statement regarding the Y2K compliance status of their products and/or services.

This step is critical to identifying every possible Y2K compliance issue effecting your organization. Another important issue in this phase is the measurement of your confidence in your business partners' ability to resolve their Y2K issues and to continue providing you with the products/services that they have in the past.

Process Steps

1) **Identify your business partners** by company name and contact name. Identify the type of relationship you have with them, such as "accounting services" or "raw materials supplier". Be specific when identifying each product or service.

2) **List the contractual remedies** (if any) covering non-performance that exist between your company and your business partner in the "Remedies for Non-Performance" column. These may include a variety of punitive steps or the identification of alternate suppliers.

3) **Prepare letters to your business partners** acknowledging your Y2K project, and clearly define the nature of your current relationship with them. Identify the products and/or services that you receive from them and request that they provide a statement as to:

- the status of their efforts to bring their products/services into compliance and to prevent Y2K failures,

- their expectations of readiness by critical Y2K milestone dates.

Record the date that the letter was sent and retain a copy of each letter to establish a "paper trail" which will demonstrate your organization's due diligence in addressing the Y2K problem. **Record the date a response was received** from your business partner(s).

4) **Assess a confidence rating** from 0 to 100 percent. This is a measure of your confidence that this partner is Y2K compliant. The confidence rating should indicate the following range: 100% = complete confidence; 0% = no confidence ; 50% = even chance. You will need to take into account your business partner's past history in meeting deadlines, or completing tasks, when assigning a confidence percentage.

5) Depending on the status of your partner's own Y2K program, you will **decide whether to continue monitoring their Y2K compliance** progress. Again, you should base your decision to monitor based on the partners' past performance. Place a "Y" or "N" in the space provided.

6) **Rate the impact that each business partners' failure to achieve Y2K compliance** would have on your organization. In other words, if the identified partners were unable to continue providing you with the products or services they have in the past, what impact would it have on your operation, using the following values:

Rating 5. Catastrophic.

Rating 4. Significant.

Rating 3. Moderate.

Rating 2. Minimal.

Rating 1. Negligible.

After completing the Step 2-3: Critical Business Partnerships Inventory, you may continue to Step 2-4: External Threats.

Step 2-4: External Threats

Step 2-4 allows you to identify possible external threats to your operation. These external threats are characterized as the loss of critical infrastructure services such as utilities, banks, transportation, etc. As with Step 2-3: Critical Business Partnerships Inventory, you would also contact the key contacts about their Y2K compliance efforts, and assess your confidence in their ability to continue to provide services.

Process Steps

1) **Identify your utility and other infrastructure providers** and key contacts with which you may continue to correspond. Be sure and list any additional providers not already listed on the sheet.

2) **Prepare letters to these providers** identifying your Y2K project and the services they provide you, and inquire as to: (1) the status of their efforts to prevent Y2K failures and, (2) their expectations of readiness by critical Y2K milestone dates. Record the date the letter was sent in the space provided, and record the date you received a response.

3) **Assess a confidence rating** from 0 to 100 percent which reflects your level of confidence that this provider is or will be Y2K compliant. Again, use the following scale: 100% = You have complete confidence; 0% = You have absolutely no confidence; 50% = Even chance.

4) As in the previous sheet, **decide whether your provider's response warrants further monitoring of Y2K status**. Record "Y" or "N" accordingly.

5) **Rate the impact that the loss of service** from each of the listed providers would have on your organization, using the following scale:

Rating 5. Catastrophic.

Rating 4. Significant.

Rating 3. Moderate.

Rating 2. Minimal.

Rating 1. Negligible.

After identifying the External Threats (Step 2-4), you can continue to Step 2-5: Inventory Business Criticality and Risk Status.

Step 2-5: Inventory Business Criticality and Risk Status

Step 2-5 carries forward the data entered in Phase 1 – Inventory and calculates an initial (baseline) criticality for each inventoried item. The initial criticality allows you to determine which of the listed items to address first. This sheet will serve as a reference document, to which you will return and record the verified Y2K compliance or non-compliance of each item until you begin your remediation efforts. It will also assist you in prioritizing your remediation actions, and will prompt you to continue to contact manufacturers and vendors until you have verified the Y2K compliance status of each item.

The data in the first four columns is "read-only", which means you cannot edit the information on this page. To edit the information you will need to return to the first page where each item of information was entered. Remember, each time you edit this data you will need to follow each the outlined steps, in order before you can return to this point.

Process Steps

1) To establish the initial priorities for action, sort this spreadsheet by the column titled "Calculate Baseline Criticality".

   #### Sorting data

- To sort the data, select "Sort" from the Year 2000 Pull-Down Menu. The "CONVERSION 2000: SORT" window appears. Under the "Sort By" heading, click on the arrow and select "Criticality Rating". To the right of the "Sort By" box you can select the data to be sorted in ascending or descending order.

- Ascending means from lowest to highest, descending means from highest to lowest. For our use it is best to sort by descending values, as we want to identify and address the highest risk items first. Click in the descending circular box. Under the "Sort by" section is the "Then By" section.

- A secondary sort pattern means that once the tool has sorted the data according to criticality rating, it can list the most critical items by their item number or risk rating in ascending or descending order. You may select which secondary sort pattern you wish.

- Once you have completed making your selections, click "OK".

  When the tool completes its calculations, you will notice that all items appear in order of Calculated Baseline Criticality (from highest to lowest).

2) With your items now sorted according to their criticality, you can now begin the process of determining the compliance status of each item. You can determine the compliance of products in two ways: direct written correspondence from the vendor or by accessing the manufacturer/vendor web site. To receive direct written statements by mail, prepare letters to each manufacturer or vendor with the following information:

   - An explanation of your Y2K remediation project.

   - A description of the product (including model, serial number, version number, upgrades, number of processors, date of purchase, and vendor).

- A request for the vendor's formal statement of the product's Y2K compliance status (Y2K compliant, non-compliant, Y2K ready, or other designation). The statement from the vendor/manufacturer should provide their definition of Y2K compliance or readiness.

- A description of upgrade, repair or replacement solutions if the item is not currently compliant.

- A request for a statement regarding their expectations of readiness by critical Y2K milestone dates.

If you wish to verify compliance by accessing vendor websites, make sure that you print and retain a copy of the Y2K compliance document from the website. Statements placed by vendors on their websites are an acceptable, legal declaration, just as valid as a written response.

3) When sending a letter to a vendor, record the name of the contact person to whom the letter was sent in the space provided on the sheet. Also, record the date of the letter. When a response is received from the vendor, record the date as shown on the response, not the date you received the response.

   In the event that there is a change in the Y2K status of that item, you will need to compare to date that the information was updated against the date recorded on the letter from the vendor. When using information posted on a vendor website, record the "Point of Contact" as "Website" and include the URL. Print a copy of the document from the website and record the "Contact Date" and the "Response Date" as the date the document was printed.

4) In the "Response Y2K Status" column, describe the response you obtained from the vendor or manufacturer regarding Y2K compliance of each item. For example, you may enter, "no response," or "inconclusive," or "poor response".

   You should continue to pursue a verified statement or other verification of the compliance status of each item until you are certain that each item is either compliant or non-compliant. Once you have verified that the item is "compliant" or "non-compliant" record "verified compliant or verified non-compliant" in the space provided.

5) In the "Percent Confidence in Y2K Compliance" column, assess a rating from 0 to 100 percent for your confidence that the item is Y2K compliant, based on your judgment of the manufacturer or vendor's response. If the vendor or manufacturer has provided a statement of compliance, but you continue to doubt the likelihood of compliance, you should quantify that doubt by assigning a percentage from 0 to 100.

6) The "Need to Reassess" column will provide you with a mechanism to "flag" those items which need to be re-addressed or verified, even if you have received documented verification of compliance. If you feel that any item should be reassessed enter a "Y" in the space provided. If you are confident that the data you have received is correct, then place a "N" in the space.

7) The final column of this sheet, "Current Risk Rating" is a computer-generated field. See the section Calculating the current risk rating for directions. You should periodically update the risk rating calculation. You may also "re-sort" the data based

on these changes to help re-focus your project efforts on the most critical items. It is recommended that the "Current Risk Rating" section be updated weekly.

Calculating the current risk rating

After completing the required fields to Baseline Criticality (Step 2-5), you must execute the process for determining the current risk rating.

This routine calculates the current risk rating of the inventory item as a function of the calculated baseline criticality and your current confidence the Y2K compliance of each item. As your recorded confidence in the Y2K compliance of each item increases, the "Current Risk Rating" decreases.

There are two ways to update the Current Risk Rating.

- Click on the button labeled "Calculate Risk Rating" on Sheet 2-5.
- Select "Calculate / Risk Rating" from the Year 2000 Pull-Down Menu.

It is important to note here that once this phase is completed, you may begin Phase 3 – Contingency Planning and Phase 4 – Remediation simultaneously. Contingency Plans need not be complete before beginning remediation. You may choose to assign tasks for both phases at the same time. This will be critical if you are operating under a tight timeline.

Phase 3 – Contingency Planning

You should carefully consider developing contingency plans for core business processes, key business partners, critical external infrastructure services, and perhaps certain critical inventoried hardware, software or embedded system items previously identified. Also consider changing or adding plans for other perceived threats or vulnerabilities as they arise.

Each core business function should be represented in the identification of critical business processes. Some areas will be more critical than others, but initially, all areas should be represented, and some ranking of criticality made. The ranking becomes necessary, because as areas requiring contingency plans are identified, constraints relating to costs, resources and time will surface. Those most necessary to the continued functioning of the business must be completed first. Executive management must agree to and support the ranking and allocate funds and staff for the development of the contingency plan.

Steps 3-1 through 3-3 will help you establish and manage the development of contingency plans. The Contingency Planning Template is located in the subsequent section.

Step 3-1: Contingency Plans Identification

The worksheet for Step 3-1 Contingency Plans Identification helps you identify which contingency plans need to be developed. The sheet also assigns responsibility for each of the four categories (Critical Business Functions, External Threats, Business Partners and Critical Inventory) and allows for the assignment of plan completion dates.

1) **Column Headings** – If you look under the column headings "Critical Business Functions", "External Threats" and "Business Partners" you will notice that all the data you have entered under those categories has been brought forward into this sheet.

2) **Responsibility** – Your Y2K Team Manager should now assign individuals with the task(s) of developing contingency plans for Critical Business Functions, External Threats, and Business Partners categories. Those assigned should be familiar with each of the areas and how they fit into the overall organization.

   The Y2K Team Manager will also assign a due date for the completion of each plan. The due date should not be December 31, 1999. The Y2K team will need to review and edit the Contingency Plan before completion of the tasks. Therefore, dates need to reflect ample time for team review, editing and final publication.

3) **Critical Inventory** – A contingency plan must be developed which identifies the most critical inventory items (hardware, software and embedded systems). Among the inventoried items, identify those critical ones for which contingency plans must be developed. As in the other three categories, assign a person the responsibility for the plan development and a due date.

4) **Contingency Planning Templates** – Formal contingency plans can be developed using the instructions and templates provided in the Contingency Planning section of

this User's Guide. Read the instructions carefully before beginning the development of contingency plans. See Contingency Planning Template.

Identify contingency plans

Once all the assignments recorded on Sheet 3-1, you must execute a process to fill the contingency plans to the sheet for Step 3-2: Manage Contingency Planning.

There are two ways to execute this routine.

- Click on the "Identify Contingency Plans" button.
- Select "Contingency / Identify Plans" from the Year 2000 Pull-Down Menu.

Step 3-2: Manage Contingency Planning

The purpose of this step is to allow users to track visually and manage the status of the preparation of the contingency plans. You will notice that the data entered in Step 3-1: Contingency Plans Identification is reflected on this sheet.

Process Steps

1) When a specific section has been completed in the Contingency Plan document, (the contingency plan for each business function, external threat, business partner, and critical item), indicate "yes" under the "Status" portion of the worksheet.

2) Periodically review and update each contingency plan.

Managing the Contingency Plans

When all contingency plans have been completed, you must execute the routine for managing the contingency plans.

There are two ways to execute this routine.

- Click on the "Manage Contingency Plans" button on Sheet 3-2.
- Select "Manage Plans" from the Year 2000 Pull-Down Menu.

Step 3-3: Developing Contingency Plans

The instructions in the Step 3-3 refer you to the "Word" document entitled "Conversion 2000: Contingency Plan". This Conversion 2000 – Contingency Plan has been included in this document below.

Developing a Contingency Plan

The following guidelines present a simplified and streamlined approach to the contingency planning process. They are based on the assumptions that the business will implement

an aggressive, effective remediation effort and will be less willing to devote significant money to developing, testing and maintaining contingency plans. Consequently, this approach also assumes that the business owner is willing to accept some losses in productivity and business functions, in the event of an actual contingency. If you desire to develop contingency plans that are more detailed, more elaborate, but potentially more effective, seek guidance from other sources.

The approach outlined below is adapted from Total Contingency Planning for Disasters, by Kenneth N. Myers, John Wiley & Sons, 1993. It provides a simple, systematic model for developing, testing and maintaining contingency plans and is a good value at a list price of $24.95.

Contingency planning and execution occurs in 4 phases

1) **Normal Operations Phase** – The period before a disaster occurs. This is when businesses should be engaged in:

- defining the areas of exposure
- educating staff
- performing business impact analysis
- involving key people in developing strategies
- developing the plan(s)
- taking preventive measures
- identifying and assigning routine actions to facilitate responding to actual contingencies
- testing and maintaining the plan(s)
- promoting contingency planning awareness and preparedness

2) **Emergency Response Phase** – The first few hours immediately following a disaster or failure, where the extent of the problem is identified and an organized response is mustered.

3) **Alternate Procedures Phase** – The time after the emergency response, when interim procedures are used to support essential business functions until normal processing capabilities are restored.

4) **Restoration Phase** – The time period given to restoring a processing capability to its normal condition. (This period is expected to overlap with the Alternate Procedures Phase.)

Contingency Planning

You should carefully consider developing contingency plans for core business processes, key business partners, critical external infrastructure services, and perhaps certain critical inventoried hardware, software or embedded system items previously identified. Also

consider changing or adding plans for other perceived threats or vulnerabilities as they arise. Each core business function should be represented in the identification of critical business processes. Some areas will be more critical than others, but initially, all areas should be represented, and some ranking of criticality made. The ranking becomes necessary, because as areas requiring contingency plans are identified, constraints relating to costs, resources and time will surface. Those most necessary to the continued functioning of the business must be done first. Executive management must agree to and support the ranking and allocate funds and staff for the development of the contingency plan.

One of the factors in evaluating proposed individual alternate procedures and contingency plans is potential risk. An alternative, which has a very high probability of risk and a very high cost, is probably not an acceptable choice, while one with a low probability of risk and a high cost may be. You may want to develop a spreadsheet that evaluates the following items for each potential alternative for each planned contingency or potential mode of business failure:

- Cost
- Resources to implement
- Time to implement
- Risk
- Pros
- Cons
- Impacts

Additionally, contingency plan should address:

- To whom does the plan need to be communicated
- Under what conditions (triggers) will the plan be invoked
- How long the loss can be endured before implementing the contingency
- Who has the authority to invoke the plan
- Who has the responsibility for invoking the plan
- Who should have copies of the plan
- Who has the original and what is the date of the most current plan
- How frequently should the plan be updated
- The level of service to be provided during the "outage"

Contingency Plan Formats

At a minimum, contingency plans should be in place and satisfactorily tested to perform the following procedures, corresponding to the four phases identified above.

1) **Normal Operations Procedures**

This section should outline tasks and responsibilities necessary to support and maintain an effective ongoing disaster recovery and business continuity plan, before a disaster occurs. Examples of such tasks include file backup procedures/policies, inventorying and maintaining supplies, forms, and materials required for alternate procedures, periodic contingency plan testing, etc.

2) **Emergency Response Procedures**

Emergency response occurs during the first few hours immediately following an event. This section of the plan identifies activities that may need attention during this time. It is intended to ensure an organized response and to provide a checklist so that important decision-makers and issues are not inadvertently overlooked in the confusion that can accompany the event. It should contain actions assigned to specific individuals and/or an Emergency Response Team.

3) **Alternate Procedures**

It is important that comprehensive and detailed work-around plans be developed, documented, tested and placed on several library shelves in anticipation of the day they will be needed. For these work-around plans, the company's personnel will want to make sure they understand what processes will need to be performed manually or without computerized support. It will also be important to acquire specialized supplies, forms or equipment in advance. It would be wise to conduct a dry run to ensure that all the processes will work, in the event of an emergency. This should also highlight any training needs. Note: It is not necessary that the work-around be as robust and complete as the "real thing". Companies will need to make sure they capture the essential aspects of their process, has a way to continue to do business, and have a way to "recover" from temporary disruption when applications "come back on line".

Alternate procedures should be developed by employees who are directly responsible for applicable business functions. These procedures should address 3 sub-phases:

A. Start-up. This section of the plan identifies specific preparations needed to make a transition from normal business procedures to an alternate processing mode.

B. Support of essential business functions. This section describes how people in applicable functional areas of the company have agreed to support vital business functions until normal operations can be restored.

C. Data recovery. In this section, the plan covers functional area responsibilities for retaining transactional, process or other data (that occurred during the alternate procedure period) so that files and databases can be updated when normal processing capability is restored.

Developing alternate procedures involves the preparation and partial implementation of alternative work processes in the event of a business failure of varying proportions. This is perhaps the most difficult aspect of solving the Year 2000 problem. It involves a disciplined investigation into all aspects of a corporation's business to locate those points where significant risk can occur which could immobilize a business's viability.

Invite users, experts and support personnel. An alternate procedure must be broad based and have wide business support. Because it can involve the suspension/elimination of some existing processes, those areas of the business which are potentially affected need to be involved in the decision process. The user organization knows the potential impact of doing without certain key business processes, and can know what they can live with and without in an emergency situation. The duration of the emergency will affect the contingency chosen. An outage of an hour or two will be handled differently from an outage of 2 weeks or more, consequently, contingency alternatives relative to the duration must be developed. Representatives from infrastructure areas, such as facilities, security, food service, etc. should also provide input.

4) **Restoration Procedures**

Restoration involves the steps necessary to return to a normal business function. This section includes addressing the duties and responsibilities of individuals regarding correction of hardware, software, or embedded system malfunctions. It should also include the procedural steps to transition from operating under an alternate procedure at reduced efficiency to normal operations and efficiency.

Contingency Planning Template

Name of Company:	**Name of Critical Area:**
Name of critical area leader:	**Date:**
1. NORMAL PROCEDURES:	
Team Leader:	
Team Members:	
Outline of tasks and responsibilities:	
2. EMERGENCY RESPONSE:	
Emergency Response Team Leader:	
Emergency Response Team Members:	
Identify activities that may need attention:	
Determine cause of failure:	
3. ALTERNATE PROCEDURES	
Alternate Procedures Team Leader:	
Alternate Procedures Team Members:	
Identify work-around plans in case of emergencies: **A. Start-up:** **B. Support of Essential Business Functions** **C. Data Recovery:**	
4. RESTORATION PROCEDURES	

Restoration Phase Team Leader:	
Restoration Phase Team Members:	
Identify steps necessary to return to normal business function:	

Phase 4 – Remediation

Step 4 : Remediation Planning and Management

In Phase 4 you plan and manage the steps necessary to address and correct Y2K issues. This phase will likely be the most time consuming and costly of the four phases. During this phase, your organization will determine how to "fix" the problems in your systems. These remedies could include rewriting code, replacing equipment and software, or even retiring systems.

Properly planning this phase will involve the identification of reliable resources, upon whom you can call for assistance. The MEP has prepared a resource to assist you in finding the assistance you may need. The resource is located on the MEP website at http://y2khelp.nist.gov. The "Y2K Self-Help Tool Resources" page has listings and links to resources. If you have not already used this resource page, now would be a good time to visit the site as you develop your remediation plans.

In Phase 2 – Business Criticality Assessment and Step 2-5: Inventory Business Criticality and Risk Status, you should have identified whether inventory items are Y2K compliant. Items which have been confirmed as Y2K compliant are no longer a threat to the organization. Those items that are not Y2K compliant must be addressed, in accordance with their criticality.

A compliance plan for each non-compliant item must be developed, begun and progress monitored to insure that critical system and their components will be fully functional before and after January 1, 2000. The Phase 4 Remediation Planning and Management sheet has carried forward the data recorded in Phase 1 – Inventory and Phase 2 – Business Criticality Assessment, including the results of Calculating Baseline Criticality and Calculating the current risk rating. These ratings will assist you in addressing those most critical items first.

Process Steps

Planning Section

1) **Compliance Plan** – For each inventory item perceived to pose a risk to your company, enter a short description of the approach you have decided to take to solve the problem. These descriptions can include statements such as "replace with…", "upgrade to version x.x", "rewrite code" , etc. Insure that the plan has received budget approval for the designated solution.

2) **Estimated Cost** – Record here the cost to implement each compliance plan, and plan a start and stop date for the compliance activities. Enter the figures as whole dollar amounts.

3) **Planned Start Date and Planned Completion Date** should be established and monitored carefully by the Y2K Team Manager.

Status Management

4) The Team Manager should be actively monitoring and updating the "**Current Status**" of remediation efforts. Estimates of current progress should be recorded in percentages from 0 to 100. By recording the actual start and stop dates the Team Manager will be able to document the entire process and compare the results with original estimates. This data serves as a benchmark in planning and implementing future projects for the company.

5) **Record the actual costs** associated with individual compliance efforts, if you can. Again, the actual costs versus original estimates will serve to improve estimated the cost of future projects and be used to measure the effectiveness of the Y2K Project Manager and the Y2K Team.

Note: It is recommended that the "Status Management" section be updated weekly.

Conclusion

The entire Y2K remediation project is not yet complete. The following are steps that you should take to insure that your efforts have been successful.

Retain Records

- Update and back-up all critical operational, procedural and legal data prior to December 31, 1999.
- Print hard copy of all critical operational, procedural, and legal documents currently retained on your systems.
- Retain copies of all Y2K related documents, including compliance statements from vendors and manufacturers, and receipts for products and services related to the project.

Keep Staff and Interested Parties Informed

- Print, duplicate and distribute copies of all Contingency Plans to staff and management.
- Notify your employees, vendors, customers and partners that your Y2K project is complete.

Develop a rigorous testing system

- Test all systems prior to November 1999, to insure that they are indeed compliant and fully functional. If you are concerned that some items cannot be tested properly at your location, seek confirmation directly from the manufacturer or from an independent third party vendor or consultant such as Tava Technology or Raytheon.
- Develop new strategic and operational plans that incorporate the philosophies and procedures implemented in this project.
- Provide continuous management of technology and the management of change within your operational and strategic plans.
- Establish Y2K maintenance procedures to insure that data, systems and procedures remain compliant.

TIDBITS for CONVERSION 2000: Y2K SELF-HELP TOOL

This document contains helpful "tidbits" for users working with the Conversion 2000: Y2K Self-Help Tool" in Excel 95. This document is not intended to act as a comprehensive user manual for the tool.

OVERVIEW

Changes to the Y2K Self-Help tool can be implemented incrementally by the user. For instance, it is possible to revise inventory data and information contained in other phases of the tool in subsequent sessions. This capability is contingent on saving the original information before closing a session. Functionality takes some time, so please close other applications when running the tool. The tool's performance is slower when operated in Excel 97 than in Excel 95.

- **Year 2000 pull-down menu** – The Year 2000 pull-down menu is an exclusive feature of the Conversion 2000 (Y2K) tool. This menu is located in the Excel title bar and gives the user access to various functions, including accessing the other worksheets (via the "Manager" roadmap), calculating risk and criticality, printing, and generating Y2K Help screens. The Year 2000 pull-down menu automatically appears upon opening the workbook, and the menu is dismissed upon closing the file properly. In case of errors associated with the Year 2000 pull-down menu (i.e. the menu appears when the tool is closed or the menu replicates itself), the user can dismiss the menu by selecting "Delete Year 2000 Menu" from the Year 2000 pull-down menu. You may need to re-open the model again, and then select "Delete". Always use the Year 2000 pull-down menu to delete a row or print.

- **Deleting a row** – Select "Clear/This row" from the Year 2000 pull-down menu to delete a row. The tool will check to make sure you have selected a valid row for deletion. This tool can only delete a single row at a time.

- **Deleting cells** – When deleting the contents from a cell, use the delete key. Do not use any other method, such as the space bar, as a shortcut. The tool will be unable to calculate risk or criticality.

- **Entering text data** – When entering text, you can hard code a single quote mark (') to denote a text entry in a cell. This is helpful when entering a serial number which begins with a number (e.g. for a serial number 10/3AB, type '10/3AB to convince Excel that this is a string).

- **Excel features** – Certain Excel features are available in the Y2K tool, and are described in this section. Some Excel features, including formatting cells and rows, are not available due to the protection schemes.

- **Page setup** – Select "Page Setup" from the File pull-down menu to change the printing defaults, including the magnification ("Scaling"), header and footer information, and paper size.

- **Freezing panes** – The user may consider locking the titles and inventory list while completing sheets to make it easier to read. Select "Freeze panes" from the Window

pull-down menu. This effectively freezes everything above and to the left of the selected cell.

- **Item Description** – The field Item Description (found in the Inventory sheets) may include a verbal description of the inventoried item, an item number assigned to the asset by the company, or other useful description.

- **Manager** – The "Manager" worksheet acts as a roadmap for accessing the other worksheets in the tool. The buttons on the "Manager" worksheet provide direct access to the worksheet specified. "Manager" can be accessed from the Year 2000 pull-down menu.

- **Required fields** – The red font in the column headings denotes required fields. All records must have information in the required fields in order for the tool to calculate criticality and risk ratings. If information is not available for a required field, fill the field with "N/A" to avoid an error message.

- **Restoring the list of defaults** – Selecting "Clear/All Sheets" from the Year 2000 pull-down menu will clear the entire workbook of all user-input information and restore the original list of business functions on Sheet 2-1 (Business Functions) and the original list of external threats on Sheet 2-4 (External Threats). Use caution when selecting this option, as changes cannot be reversed.

- **Revising information in the tool** – The tool permits changes to be implemented between sessions. Any changes to inventory data or business function data must be carried forward by the user by filling the map of inventory to business functions or calculating the criticality and risk ratings again.

- **Security** – Each sheet of the workbook is protected from changes, including formatting changes. Do not change the names of the worksheets. The tool's performance would be compromised by renaming any of the worksheets.

- **Sorting** – Select "Sort" from the Year 2000 pull-down menu to sort the relevant worksheets in the tool by certain keys.

- **Sorting on the inventory worksheets** – Suggested sorting work-around: enter data in a "working" spreadsheet, sort the data as desired, and then paste the data back into the inventory worksheet.

- **Tailoring the default information** – The tool provides ample flexibility for tailoring specific business functions to an SME's needs. Modify the defaults by adding and deleting business functions (we suggest a minimum of three business functions).

- **Y2K Help** – Cells with red dots suggest Y2K Help capability. To access the help text, select "Y2K Help" from the Year 2000 pull-down menu.